

WHAT IS CLAIMED IS:

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and

1. An image pickup method of increasing an apparent dynamic range of a video signal by synthesizing a single image from a plurality of images sequentially picked up at different exposure amounts, wherein a motion vector of a video signal is detected, and if the detection result indicates that the motion vector is larger than a predetermined threshold value, image synthesization is not performed.

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2. An image pickup method of increasing an apparent dynamic range of a video signal by synthesizing a single image from a plurality of images sequentially picked up at different exposure amounts, comprising:

a motion vector detecting step of detecting a motion vector between corresponding pixels in the plurality of images;

20 a vector difference detecting step of detecting a difference between a motion vector detected at said motion vector detecting step and a motion vector between the plurality of images;

25 a comparison step of comparing the detection result of said vector difference detecting step with a predetermined threshold value; and

a synthesization inhibiting step of inhibiting the image synthesization if the comparison result at said

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~~motion vector comparison step is larger than the predetermined threshold value.~~

3. An image pickup method of increasing an
5 apparent dynamic range of a video signal by
synthesizing a single image from a plurality of images
sequentially picked up at different exposure amounts,
comprising:

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10 a motion vector detecting step of detecting a motion vector between corresponding pixels in the plurality of images;

15 a vector difference detecting step of detecting a difference between a motion vector detected at said motion vector detecting step and a motion vector between the plurality of images;

20 a comparison step of comparing the detection result of said vector difference detecting step with a predetermined threshold value;

25 a coordinate converting step of performing a coordinate conversion of the plurality of images in correspondence with an image shift caused by a time difference when the plurality of images are picked up, if the comparison result at said motion vector comparison step is smaller than the predetermined threshold value; and

an image synthesizing step of synthesizing the plurality of images with the image shift corrected at said coordinate converting step, into a single image.

5 4. An image pickup method according to claim 1, wherein a shutter speed is changed in order to change the exposure amount.

10 5. An image pickup method according to claim 2, wherein a shutter speed is changed in order to change the exposure amount.

15 6. An image pickup method according to claim 3, wherein a shutter speed is changed in order to change the exposure amount.

7. An image pickup method according to claim 1, wherein an iris is changed at high speed in order to change the exposure amount.

20 8. An image pickup method according to claim 2, wherein an iris is changed at high speed in order to change the exposure amount.

25 9. An image pickup method according to claim 3, wherein an iris is changed at high speed in order to change the exposure amount.

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10. An image pickup apparatus in which an
apparent dynamic range of a video signal is increased
by synthesizing a single image from a plurality of
images sequentially picked up at different exposure
5 amounts, comprising:

10 motion vector detecting means for detecting a
motion vector of the video signal;
comparison means for comparing the detection
result by said vector difference detecting means with a
10 predetermined threshold value; and

synthesization inhibiting means for inhibiting the
image synthesization if the comparison result by said
comparison means is larger than the predetermined
threshold value.

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11. An image pickup apparatus in which an
apparent dynamic range of a video signal is increased
by synthesizing a single image from a plurality of
images sequentially picked up at different exposure
20 amounts, comprising:

motion vector detecting means for detecting a
motion vector between corresponding pixels in the
plurality of images;

25 vector difference detecting means for detecting a
difference between a motion vector detected by said
motion vector detecting means and a motion vector
between the plurality of images;

comparison means for comparing the detection result by said vector difference detecting means with a predetermined threshold value;

coordinate converting means for performing a coordinate conversion of the plurality of images in correspondence with an image shift caused by a time difference when the plurality of images are picked up, if the comparison result by said motion vector comparison means is smaller than the predetermined threshold value; and

image synthesizing means for synthesizing the plurality of images with the image shift corrected by said coordinate converting means, into a single image.

12. An image pickup apparatus according to claim 10, wherein a shutter speed is changed in order to change the exposure amount.

13. An image pickup apparatus according to claim 11, wherein a shutter speed is changed in order to change the exposure amount.

14. An image pickup apparatus according to claim 10, wherein an iris is changed at high speed in order to change the exposure amount.

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15. An image pickup apparatus according to claim 11, wherein an iris is changed at high speed in order to change the exposure amount.

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